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ABSTRACT

Perspectives on providing general education for college students are presented in three papers. In "General Education in a Contemporary Context" by Jerry G. Gaff, the need for curricular reforms and two common approaches to the process are considered, and changing circumstances that indicate the need for new approaches to general education are noted. In "Bridging the Gap Between High School and College," Ernest L. Boyer suggests that achieving quality in higher education depends upon the foundation provided by schooling prior to college attendance, and therefore proposes that coordination is needed between high school and college in terms of the curriculum and teacher education standards. In "Curriculum Changes for the 80's: Beyond Retrenchment," John C. Sawhill examines various subject areas and suggests skills that need to be emphasized and alternative approaches to covering content within the curricula. The need for students to understand the interrelatedness among the social science disciplines, the importance of competence in English composition, the value of introducing students to cultures based on different value systems, a new place for foreign language study, and the need to familiarize students with scientific discoveries are noted with respect to current practices that are viewed as unsatisfactory. (SW)

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Current Issues In Higher Education

New Models for General Education

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The papers presented at that meeting form the basis for this publication. These papers were reviewed by a committee of AAHE members and 17 were selected for publication in this series. They have been grouped into six volumes published serially. Each volume focuses on one aspect of the quality improvement problem: improving teaching; the role of two external agencies; declining faculty salaries; new models for general education; the contributions of adult development theory; and national, state, and institutional strategies for retrenchment.

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New Models for General Education

page

General Education in a Contemporary Context 1
Jerry G. Gaff

Bridging the Gap Between High School and College 6
Ernest L. Boyer

Curriculum Changes for the 80's: Beyond Retrenchment 13
John C. Sawhill

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Foreword

"The time may be at hand when a reevaluation of academic purpose and philosophy will encourage the curricular developments that will focus on the lives we lead, their quality, the enjoyment they give us, and the wisdom with which we lead them." (*Curriculum*, p. 289) With these words, Frederick Rudolph ends his history of the American undergraduate study courses . . . and provides an opening position for this monograph: Each of the three papers grapples with the reconstruction of a general education for college students.

Jerry G. Gaff's paper offers a context for the current wave of curricular reform. Not since the late forties has there been a widespread attempt to reconstitute the definition of what it means to be liberally educated. The last big wave of reforms in the sixties was characterized by a "liberation philosophy"— relaxed or dropped requirements. The new wave calls for new models of general education. Gaff outlines several reasons why new visions of general education must differ from past models.

Ernest L. Boyer takes a look at the high school curriculum, and finds a confused collection of courses lacking any underlying coherence. How can we expect quality in the colleges, Boyer asks, if the high school curriculum is so muddled? Yet the high schools are not solely to blame for the poor preparation they give students: Colleges and universities, by ignoring the school/college relationship, by allowing teacher education standards to slip, are experiencing the consequences of their academic isolationism. Boyer proposes a new collaboration between schools and colleges to pursue "a common quest for quality."

In the third paper, John C. Sawhill offers a bold series of suggestions for the reconstruction of the undergraduate curriculum. Any general education curriculum that does not search for and posit new ways to integrate knowledge in an ever-changing society, he says, cannot adequately prepare students for the challenges of post-college life.

Taken together, these three papers agree that the piecemeal efforts at curricular reform and the solutions of the past simply won't work today. New models are needed, and the authors propose three different approaches for creating these models.

General Education for a Contemporary Context

Jerry G. Gaff

The reform of general education is a perilous endeavor. Consider the evidence:

It is part of academic folklore that changing the curriculum is more difficult than moving a cemetery.

Irving Kristol, the social critic, has asserted that colleges and universities are the social institutions most resistent to change—apart from the possible exception of the Post Office.

Frederick Rudolph, the academic historian, cites a 1911 book on the curriculum quoting a young professor, "The progress of this institution . . . will be directly proportional to the death rate of the faculty" (1977, p. 17). Rudolph goes on to declare, "The professor was an optimist. College faculties by the late 19th and early 20th centuries had developed an authority that made the course of study a jealously guarded compound of special interests. By then, it seldom mattered who died" (p. 18).

Despite such warnings, there is growing interest in reconstructing general education curricula. Those of us who are a part of the Project on General Education Models are pleased to share some of our thinking and our experience about this matter with you.

It is no longer news that general education is in disarray. More than two years have elapsed since the Carnegie Foundation for the Advancement of Teaching declared that "general education is a disaster area," and since the faculty at Harvard University began debating the report of its Task Force on the Core Curriculum. It is no longer news that these two highly touted events touched off what has been called a new national debate about general education, as countless individuals in the nation's colleges and universities voiced their own quiet concerns about the quality of undergraduate general education.

What *is* new is that the debate has turned into action. Conferences have been held to discuss issues; articles and books have been written to expound analyses and to make proposals; projects have been initiated to solve problems; associations have mounted new programs to assist reform; and foundations have set up funding programs to support curricular innovations. Above all, hundreds of individual colleges and universities have taken concrete steps to strengthen their general education programs.

The reasons for this flurry of activity are several. First, there is a belief among both the public and academicians alike that the quality of education has been eroding. Scores on standardized examinations have declined; grade inflation is rampant on campuses; and indications mount that many students cannot read, write, or think effectively. Somehow these failures have been linked in the minds of many to the relaxation of graduation requirements and to a laissez faire attitude about which courses students take.

Jerry G. Gaff is director of the Project on General Education Models, a program of the Society for Values in Higher Education.

Further, current programs are simply coming to be recognized as ineffective. This fact can be illustrated by applications to participate in the Project on General Education Models which were received from institutions of all types and in all parts of the country. The programs in existence at most applicant institutions consisted of a loose set of distribution requirements with perhaps one or two courses required of all students—the most common form of general education in use today. The applications characterized such programs in the following ways: they are fragmented and described as ambiguous, unplanned, undistinguished, and like a "Chinese dinner menu"; they lack a sound rationale or an educational philosophy; faculty have long since lost interest in teaching introductory surveys, and students have little interest in taking them; and there is no single body responsible for the development, supervision, or evaluation of general education. One application summed it up: "This program as it exists today is the result of historical development, expediency, and political compromise. . . . Our program parallels the development of English Common Law, which is really nothing more than a series of expedient tinkerings."

Self-interest is a third motivation. Many faculty members, especially in liberal arts fields, have witnessed a loss of majors to the fast-rising career programs, and they are seeking students for their courses. Administrators find themselves in some cases with under-utilized faculty, and are searching for ways to better distribute the teaching responsibilities. And departments are searching for student FTE's.

Whatever the motivations may be, and they are many and complex, this marks the first time since the days immediately following World War II that sustained national attention has been directed toward general education. Needless to say, the world is radically different now, so it is necessary to think about general education in fresh ways. The last wave of curricular reform occurred in the 1960's when, fired by liberation philosophy, school after school relaxed or dropped requirements. Today's challenge is to reconstruct general education, a vastly more difficult and complex endeavor than simply removing restrictions. These circumstances call for creativity in designing general education for the contemporary context.

In what directions are curricular reforms moving? At first blush it appears that reformers are marching off in all directions. Although many have been swayed by calls for a core curriculum, this concept is interpreted in various ways. Some attempt to define a common body of knowledge for their students; others stress common skills and abilities; others seek common experiences, not exclusively curriculum, as a means to rebuild academic community; and still others see little reason to require anything common to all students.

Amid the conflicting analyses and proposals two schools of thought and action may be identified. The *traditionalist school* stresses the reinstitution of conventional distribution requirements, which consist primarily of liberal arts academic disciplines, usually taught with familiar lecture and seminar methods. Proponents tend to accept the rhetoric of "back to basics" and believe that more structure is necessary to improve the quality of education. They harken back to the golden days before the curriculum was loosened by the concern for relevance and before the preference for career education led students away from the liberal arts.

There are two serious limitations to this approach. First, an array of disciplinary offerings with required distribution is the one model of general education with which we have had extensive experience, and many of the problems we face today attest to its limitations. Indeed, the many problems cited by applicants to the Project mentioned above—the fragmented curriculum, absence of an accepted rationale, lack of student and faculty interest, and little coordination—

are testaments to the inadequacy of this approach. Furthermore, breadth is only one part of what most people accept as components of general education. The Carnegie Foundation for the Advancement of Teaching (1977) noted that learning skills, both basic and advanced, and integrative learning, that pulls together pieces of separate fields, are additional components; these elements typically are not addressed by distribution requirements.

Reservations about the traditionalist approach have been well expressed by Theodore Lockwood (1978, p. 1).

> *The current trend at colleges of reviving distribution requirements does not convince me we are improving the quality of education. Giving the curriculum more structure doesn't necessarily give it coherence. I am skeptical that meaningful educational reform can occur if it is not based on a new philosophy of education and shared assumptions by faculty members of what education should be in the last quarter of the twentieth century.*

The second school of thought, the revisionist, resists the all-too-human tendency to return to familiar patterns and calls for the comprehensive rethinking of general education today. Revisionists attempt to reconstruct the general education curriculum by developing a new consensus around a philosophy of education among faculty, administrators, and students. They aspire to the creation of new models that are appropriate to the contemporary context. This approach is more laborious, since it involves a great deal of fresh thinking and innovative acting, precisely at a time when campus morale and fiscal flexibility have sunk to new lows. Nor does it hold out the promise of easy success, simply because those who choose this course must sail in uncharted waters. But it does offer the best long-term opportunity to reconstruct the curriculum by grounding it in a shared educational philosophy based on today's realities.

Let us consider a few of the circumstances that have changed since 1945 when the Harvard "Redbook," *General Education in a Free Society*, was published and thereby launched the last great push for general education. These are circumstances that demand new approaches to general education during this current wave of reform. First, private colleges and universities, numerically and influentially dominant then, have been eclipsed by the development of a much more differentiated system of higher education. There no longer is, if there ever was, a single model of effective general education. Programs operated by such leading private institutions as the University of Chicago or St. John's College are less useful as guideposts to others than they were when the system was more homogeneous. Rather than developing and promulgating a single model, as did the "Redbook," our project has adopted the philosophy of "let a thousand flowers bloom." Our resource guide (Project on General Education Models, 1980), a "Bluebook" if you will, provides information to help institutions devise a program appropriate to their own mission, history, and character; to the needs and interests of their students; and to the talents and interests of their faculty.

Second, following World War II the United States was concerned primarily with Europe; people wanted to understand why Germany, perhaps the most advanced nation in Western Europe, initiated the holocaust, how a repetition could be avoided, and what was needed to rebuild a devastated continent. It was natural that integrated Western civilization courses became the central feature of general education. Today, however, a larger global perspective is needed with special emphasis on non-Western cultures, because this nation is facing significant problems in the Middle East, Asia, Africa, and South America—geographical

and cultural areas in which Americans are relatively unschooled. Recent scholarship in social history also is leading to new interpretations of European and American history, and courses are incorporating more material on women, minorities, and working-class people.

A third fundamental change has been the increase in the diversity of students as well as in their numbers. Larger numbers of women, ethnic minorities, adults, part-time, poorly skilled, foreign, and handicapped students are enrolled; while these "non-traditional" students tend to be concentrated in disproportionate numbers in certain kinds of institutions, it is a rare school that has not been affected at all by this broadened base. It is important to ask whether general education means the same thing for a 45-year-old as for an 18-year-old, for a student who is sophisticated in abstract and theoretical discussions as for one oriented toward concrete and practical matters. Isn't the question *who* studies at least as important as *what* is studied? This is a crucial issue because in the present environment students surely will be able to find some school that will give them what they want. If faculty fail to shape their curricula around the interests of their students, they may be giving their schools the kiss of death by jeopardizing future enrollment beyond the already dire projections.

There are a number of other differences that have implications for current efforts to rebuild general education that should be noted:

- General education has been regarded as a "base" or "foundation" on which is built a field of specialization and usually consists of freshman and sophomore courses. Today different metaphors are needed, such as a larger "context" within which to understand a specialty; upper division courses are being developed as integral features of general education.

- The expansion of professional education has forced new definitions of the relationship between liberal arts and the professions. General education is increasingly tailored around the particular interests and concerns of various occupational groups, with the appearance of courses such as medical ethics, history of science and technology, and values in law and public policy.

- There is no longer a consensus about the aims and procedures of general education. No longer is it possible to proclaim, as we once did, that there is a body of knowledge that every learned person must have. (We actually said "man," just to illustrate the distance we really have traveled.) The intellectual world is simply too vast and differentiated for such a statement to carry authority today, and courses on the methods of inquiry of different fields are appearing.

- During previous years, students were more or less assumed to be vessels which college instruction filled with knowledge before they were sent out to cope with the real world. This "container approach" is becoming less prevalent, as many have realized that adults make changes, perhaps several times, in their jobs, families, and other parts of their lives. Unlike their earlier counterparts, general education programs today tend to teach skills, not just subject matter, that will aid life-long learning.

- Although it is a truism, complexity of academic life has increased, largely because of the increase in size, purposes, and number of programs at most institutions. Several schools have seen their faculties embroiled in intense debate about the single best program of general education, without realizing that any single program is a procrustean bed. Some schools, therefore, are developing alternative programs, each of which is targeted as precisely as possible to particular groups of individuals.

- There has been an enormous amount of research conducted on the development of students and the impact of college on students, some of which has contradicted assumptions on which general education has been based. Today, the revision of general education can draw upon this extensive body of knowledge; if contemporary reformers are responsive to this scholarship, they will think beyond curriculur changes alone, and devise the opportunities for human interaction, both in and beyond the classroom, that have potential for promoting general education outcomes in students.

- Finally, the primary way in which new programs were developed and implemented during earlier years was by addition; new faculty were hired, budgets were increased, students were recruited, and programs were appended to existing offerings. With this avenue closed off at most schools today, programs now are being introduced by shifting priorities, reallocating resources, reassigning faculty members, and developing the professional competence of existing personnel. This is a much more complicated procedure than reform by addition, and it requires that faculty development, broadly conceived, become part and parcel of curricular development.

Previous eras of general education reform have left their marks on American higher education. The period after World War I led to the creation of Columbia's Peace Studies, which were to become the backbone of its exemplary general education program, and to the founding of experimental colleges such as Bennington and Bard. The post-World War II period spawned integrated Western civilization programs; the 1960's witnessed the establishment of many individualized curricular programs as well as the creation of several alternative institutions.

What will be the result of the current wave of reform? It is too early to answer that question, but the tremendous amount of activity today virtually guarantees that general education will be different in the future than it is today. It is up to us to make sure that our revisions offer enduring benefits for a generation of students. It will be at least a decade, probably longer, before we get the opportunity again.

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Quality and the Campus: The High School/College Connection

Ernest L. Boyer

This morning I'd like to talk about the *quality* of higher education during what Mrs. Thatcher called "The Dangerous Decade of the 1980's." However, I should warn you—at the very outset—I do *not* intend to explore the miseries of budgets, or faculty unions, or reductions in enrollments; a strategy which, I know, will be enormously disappointing to those who worship at the shrine of Chicken Little.

I shall depart from these well-trodden and familiar paths and focus on an issue which I candidly acknowledge has almost no appeal to educators in "the world of higher learning." This morning I'd like to talk about the relationship between the nation's colleges and the nation's *public schools*.

Recently, I completed a two-and-a-half year term as United States Commissioner of Education. During that exciting and rewarding tenure, I visited classrooms all across the country; I talked with teachers and administrators at every level. And, frankly, I was dismayed by our fragmented academic structure. The truth is that presidents and deans rarely talk to principals and district superintendents. College faculty refuse to meet with their counterparts in public schools. And, curriculum reforms at every level are planned in total isolation.

Time and time again I was reminded of that insightful quote by Henry Clinton Morrison who—over 50 years ago—declared that: "As a people, we do not think in terms of *education;* we think in terms of *schools*. We have no educational *system;* we have an elementary school, a high school and a college."[1]

Early high school/college collaboration

One hundred years ago, educators in this nation understood—far better than we do today—that we cannot have excellence in higher education if we do not have excellence in school.

In 1884, the Massachusetts Classical and High School Teachers' Association passed—unanimously—two resolutions: The first declared that the lack of cooperation between high schools and colleges was an "evil." The second declared that increased cooperation between the schools and higher education would be a positive "good." Having drawn a vivid line between what was "good" and what was "evil" the secondary school administrators then invited 19 New England college presidents to join them in a meeting. Much time passed and—in the end—just *three* presidents replied!

Fortunately, Charles W. Eliot of Harvard *did* respond since—in the academic pecking order—Harvard's presence added clout to the encounter. And from this first high school/college conclave a national panel was established. Popularly

Ernest L. Boyer is president of The Carnegie Foundation for the Advancement of Teaching.

called "The Committee of Ten," the panel brought together educators from both levels. In 1894, President Eliot commented that "the greatest promise of usefulness" of the so-called Committee of Ten "lies in its obvious tendency to promote cooperation among school and college teachers . . ." to advance what Eliot called "comprehensive education reforms."

In 1908, Abraham Flexner of the Carnegie Foundation described the schools as the source of "the raw material" with which "colleges must work."

In 1945—almost a half-century later—the Harvard "Red Book" suggested that it's impossible to talk about general education at the college level without also looking at curriculum in the schools.

And following Sputnik, gifted high school and college teachers came together to work out a sequential course of study in math, English, biology, and physics.

It's such a simple point—the need for close collaboration—and yet in recent years this school/college relationship has been essentially ignored. We've pretended we could have quality in higher education without working with the schools which are, in fact, the foundation of everything we do

The crisis in the schools

I'm convinced the time has come to end this isolation. The high schools in America are in serious trouble and higher education must become involved.

Today, one out of every four high school students drops out before graduating.[2] In any given month, a high school student has a one in nine chance of having something stolen. Each month 5200 teachers are assaulted and 12% of the high school teachers have something stolen.[3] Teachers are—quite literally—being battered by the system.

And it is no surprise to this audience that many of the high school graduates who go on to college are not well prepared.

- In a survey several years ago, 50% of the twelfth-graders studied could not choose an Arab country, given four choices.
- Forty percent of these high school seniors thought that the late Golda Meir, rather than Anwar Sadat, was president of Egypt.
- One out of every four 17-year-olds could not identify Congress as a part of the *legislative branch* of government.
- Only 43% knew that the *Cold War* referred to the U.S./Soviet tension after World War II; 16% thought it meant the Korean War; and 15% thought the Cold War referred to Hitler's invasion of Russia during the winter of 1941.

Obviously, no one expects perfection. But I'm convinced we can and must do better. Since the mid-1960's: the verbal and mathematics SAT scores have gone down, as have American College Testing scores in English, social science, and mathematics; and the IOWA scores have declined in all areas for grades 9 through 12. National Assessment for Educational Progress data show declines in science at each age level and a decline in writing at ages 13 and 17.[4] And—as a special irony—a recent Kettering Foundation survey revealed that over 50% of students in the elementary grades feel that they are not being asked to work hard enough in school. And 25% of the high school students are of the same opinion.

Here I must insert an essential caveat. There is, of course, no such thing as "the" high school in America. And there is no such thing as "the" high school

crisis. Many of our schools (20 to 30% perhaps) are good to excellent. And many of the students who graduate from these institutions receive—I am convinced—the best secondary education in the world. But, this does not conceal the fact that—overall—the high school picture in this country is very sad; and "the response" of higher education to the problem is even sadder.

Rather than "work with schools" and help lift academic standards, we isolate ourselves, "jack up" our requirements for admission, or start our own "remedial high schools" on campus in subjects like English and mathematics. Recently, Ted Hollander in New Jersey reported that *at least half* of the freshmen enrolling in New Jersey colleges need some form of special tutoring if they hope to succeed in college.

Clearly, we cannot continue to run this kind of "salvage operation," and in response, I have three suggestions to propose.

The quality of teaching

First, the schools and colleges must join together to improve the quality of teaching. It is a disturbing fact that students who enroll in teacher education are academically less well qualified than those in other fields: Statistics show that the Graduate Record Examination scores of teacher education majors are 25 points below the average on the verbal section and 51 points below average in mathematics. And in 1976, education majors graduating from college ranked 14th out of 16 fields in verbal SAT's.[5] These disturbing facts suggest that "somehow" teacher education standards must be raised.

We must screen students who want to enter teaching the way we do those who want to be lawyers or physicians. We must take a hard look at the number of teacher education programs in this nation and we must look at schools of education. But I believe all of us must think carefully about our *attitude* toward teaching and teacher education. In a thousand separate ways we tell our students that teaching in public schools is not a dignified profession. We say it's alright to teach in college but it's "less alright" to teach in school. Because of our snobbery and bias, gifted students very often "steer clear" of teacher education. I believe it's time to revamp teacher education but it's also time to revamp our attitudes as well.

I have a second suggestion to propose. *I believe schools and colleges must come together to work on testing and evaluation.* Eighty years ago, the transition from school to higher education was chaotic. Nicholas Murray Butler, president of Columbia, candidly confessed that—in those days—the colleges could agree "neither upon the subjects to be offered for admission nor upon topics *within* these subjects." "Each institution," he declared, "plays its own hand . . . and only if time and opportunity are available" will the college cast "a sympathetic glance" towards what he called the interests of education overall.

For the preparatory schools this self-serving collegiate situation was both ludicrous and tragic. Cecil Bancroft, principal of Phillips Academy, complained bitterly in 1885 that "in out of over *40 boys* preparing for college next year at Andover we have more than *20 senior classes* getting students ready for *20 separate colleges*." Clearly, the time had come to bring order out of chaos.

Again, led by the vision of Charles W. Eliot of Harvard and Columbia's Nicholas Murray Butler, the College Board was born. For the first time in our nation's history, America's higher learning institutions surrendered their prerogatives and agreed to standardize the high school/college academic sequence. For the first time, a bridge between the high school and the college had been built—largely because "enlightened" higher education leaders led the way.

In 1900, President Butler in his last report to the College Board said that,

"It is not only wise, but important and highly desirable, that representatives of the secondary schools should confer with representatives of the colleges." And to achieve that goal, high school and college teachers *did* come together to talk, not just about *testing* but about *education*, too. After much debate—in the early 1900's—these teachers agreed that all students would be tested in nine key academic subjects: English, history, chemistry, French, German, Greek, Latin, physics, and mathematics. Claude M. Fuess, in his well-written history of the College Board, noted that these high school and college teachers "spent hours going over the questions in each subject making sure they genuinely measured proficiency and sound academic teaching."[4] These teachers accepted the old-fashioned view that there was a course of study that every educated person should complete.

Today, of course, high school and college teachers do not talk about what should be taught in school and there is no clear-cut connection between our classrooms and our tests. Indeed, it's curious that somehow we feel more comfortable letting the politicians measure something we call "competency," than we do in exercising leadership of our own. Indeed, as our purposes become more and more *unclear*, our testing methods seem to become more and more *precise*. Again, the conclusion seems quite clear: education and evaluation cannot and should not be divorced and I believe school and college educators should take the lead in reshaping the testing program in this nation. We cannot let this important process become the "football" of the politicians and the courts. After all, those who decide what should be *tested* do, in fact, decide what will be *taught*. This is a reality that school and college educators must confront.

The quality of the curriculum

This brings me to my third and most important proposition. *If we want quality in higher education, we must focus once again on the curriculum in the schools.* Not many years ago, the content of a high school education was rigidly prescribed, and promotion from one tier of courses to the next was strictly monitored.

Just one week ago, my 80-year-old father described for me his high school course of study, which he completed over 60 years ago. All students spent four years in the same academic sequence. They had four years of English, four years of history, four years of foreign language, four years of math—and, of course, there were no electives. (Bear in mind, this is something I'm *describing*, not *endorsing*.)

Today, there *is* no agreement about what it means to be an educated person. Diversity—not coherence—has become "the guiding principle" in our academic planning. We seem more confident of the length of a high school education than we do about its substance. And the safest thing we can say about a high school diploma is that the student probably has been enrolled in school for eight semesters.

Since my father went to school, we happily have abandoned the rigid four-year lock-step. However, we've not replaced it with a new core curriculum that reflects the new priorities of our contemporary world. Rather we have a few requirements which stand like "pillars" among "the crumbled ruins" of the past, surrounded by a sprawling "shanty town" we call "electives" where students randomly can wander in and out. The high school curriculum reflects, in short, the "confusion of priorities" that occurred on most college campuses ten or fifteen years ago.

Recently, I looked at the requirements for high school graduation among the 50 states. In one state there are *no* specific requirements for graduation in the basic subjects. In another state there is just *one* requirement—a course in basic math. And another state has a one-half credit requirement in social science—plus

one credit in physical education. It's true, of course, that virtually every high school in the nation offers some course in language arts, social studies, mathematics, science, at least one foreign language, and physical education. And yet, according to a National Institute of Education study, only a handful of *specific* courses are offered by 50% or more of the high schools of the nation.[7] These are:

English I and II	Biology I	Chorus
Public Speaking I	Chemistry I	Art I
General Math	Spanish I	Home Economics I
U.S. History	Driver Education	Typewriting I
Algebra I and II	Band	

This list—these 14 courses—represents the closest thing we have to a core curriculum—a list based not on what the students *study* but what most frequently is *offered*.

I must confess that this list of the most commonly offered courses seems to me a curious and accidental blend of past tradition and erratically selected priorities of the present. And I have to ask if anyone honestly believes that this *de facto* common core actually reflects our best effort to provide our students an adequate course of study for the future?

But bear in mind this is what is *offered* in the schools. What in fact do the students *study*? The data here are very sketchy but a survey conducted by the National Center for Education Statistics reveals:

- Between 1970 and 1972 the total proportion of high school students enrolled in regular English courses declined 8%.
- During that same period—1970-72—foreign language enrollments declined 4.5%.
- General math enrollments decreased 15%.
- There was a large drop in general science enrollment, especially in senior high school where the decline reached 30%.[8]
- On the other hand, *remedial* math enrollments *increased* over 80%.

The simple truth is this: The notion of core curriculum—a strong general education for all students—is no longer a guiding force in our colleges nor is it a guiding force in our nation's schools. Today, the commonality of *self* has triumphed over the commonality of *substance* and high school students can "pick and choose" their way to a graduation.

Lest I be misunderstood, let me underscore a very crucial point. I happen to believe that students must be free—at times—to follow their own interests, develop their own aptitudes, and pursue their own goals. And well-focused electives are essential for this. But, I also believe that truly educated persons must move beyond themselves, must gain social perspectives, must see themselves in relation to other people and other times. And it is this *balance*, reflected in a carefully designed school/college academic sequence, that has been lost and that I believe must somehow be regained. Somehow, all students must understand our common past, learn more about our inter-relationships today and confront the sobering implications of our common future. We need, in short, a core study beginning in the early grades and extending into the first years of higher education.

Conclusion

In conclusion, I return to the theme of this convention: quality and the campus. Do we honestly believe that we can have quality in the 1980's if, during the twelve preceding years of formal education, the teaching is not adequate; the testing is confused; and the curriculum lacks both purpose and coherence? And, do we honestly believe that our colleges and universities have no responsibility to help solve this crisis in the schools which is, in fact, a problem we have helped create?

The answers seem quite clear to me and I have two concrete suggestions to propose.

First, the administration and faculty at every college and university in the country should establish a partnership with one or more high schools in their region—not as a paternalistic act, but in a common quest for quality.

College students and retired faculty could tutor students in the school. Choral, instrumental, and visual arts enrichment could be offered. Teachers in specialized subjects such as English could "get together" with school colleagues just as University of California and high school faculty have been doing in the Bay Area Writing project. And, as a fascinating option, teachers from both levels might form a school/college committee on general education to learn more about what is being taught today and how the common core curriculum might more effectively be shaped.

Second, I believe the time has come to form a *National Panel on the College and the School*. I have in mind a group of educators from both levels, joined by other citizens, perhaps, to examine the crisis in the schools, conduct in-depth studies in such areas as curriculum and teaching, and propose recommendations for reform. This is an area where the Carnegie Foundation for the Advancement of Teaching intends to take the lead. This is, after all, a very urgent matter since the crisis we confront is not a crisis in the *schools;* it is, in fact, a crisis with our *students*. Students whose lives will be forever diminished or enriched by the programs we provide.

On one occasion, James Agee wrote: "In every child who is born, under no matter what circumstances, and of no matter what parents, the potentiality of the human race is born again. And *in* him, too—once more is born—our 'terrific' responsibility towards human life and towards the utmost idea of goodness, of the horror of error and of God." Thank you very much.

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Curriculum Priorities for the 80's: Beyond Retrenchment

John C. Sawhill

There is a great debate going on in the country today over what should be the purpose, the spirit, and the goals of undergraduate education. As we move into the 1980's, faculty and administrators at colleges and universities are arguing, revising, and updating their liberal arts curricula. As president (on leave) of the largest private urban institution in the nation, I know that it is an enormous job; certainly it rivals my current position at the Department of Energy. But whatever the merits and the shape of any particular university's final curriculum plan, the current debate is raising our national consciousness as educators, students, and parents; it is making us evaluate what is worth teaching our young men and women, what needs preserving, and what can safely be jettisoned.

I find it disturbing that there are those who see the process of self-scrutiny and reassessment that universities are currently going through as nothing more than "retrenchment"—a kind of educational equivalent to fiscal belt-tightening and budget-shearing. A going backwards, if you will, from some of the more daring education experiments of the last few decades and particularly the 1960's. We are indeed hearing much talk about "going back to basics," but this trend, I believe, though important, represents only a small part of what is needed.

Talk of "retrenchment" only makes sense if we accept an austere, minimalist view of the kind of curricular change that we need. I do not endorse such a view. The world around us, and consequently our educative mission, grows more complex, and more rapidly moving, with each year. We cannot replicate courses and prescribe educational experiences that were appropriate to the world of the 1930's or the 1950's. What we must seek is new ways to conceptualize and integrate knowledge. Any general education curriculum that fails to meet this challenge is doomed to obsolescence before it has hatched.

It is inconceivable to me that any general education proposal would not have a contemporary dimension. Students have a right—and faculty members an obligation—to grapple with the "relevant" pressing social and scientific concerns of our time. Indeed, so long as social relevance is not confused with shallow trendiness and is not used as a stick to beat those faculty members whose job it is to pass on traditional subjects—say Victorian literature or the Philosophy of the Enlightenment—I am all for it.

Further in the vein of relevance, universities and colleges must take decisive steps toward insuring that our literate population is more generally competent in the use and comprehension of foreign languages and in the sounder and more sympathetic understanding of foreign cultures.

And, it is precisely on the grounds of social relevance that we support the addition of computer science to the mathematics requirement that exists at most major universities. A basic understanding of computer usage and some

John C. Sawhill is deputy secretary of the Department of Energy and president on leave of New York University.

familiarity with one of the computer languages is essential for the educated college graduate of the 1980's.

It may be true, as the distinguished scientist Lewis Thomas suggests, that the *mystique* of computers is too great and that, to use his words, "no one has yet programmed a computer to be of two minds about a hard problem or to burst out laughing." But 20 years from now, when the class of '80 is moving into senior positions in government, in industry, and in the professions, computer technology will play an even more fundamental role in social and economic analysis than it does today. The ability of our graduates to make vital social and business decisions will be seriously impaired if they do not understand the possibilities and the limitations of this new technology. Worse, they will find themselves in the clutches of "experts," too intimidated to dispute the wisdom of the machine. A fairly rudimentary understanding of data banks, programming, and information retrieval systems will make it far less likely that educated men and women will, in the future, be over-awed and cowed into intellectual submission by mere printouts.

An argument for expository writing

An expository writing requirement for freshmen, on the other hand, does represent a neglected and traditional "basic"—English composition, a requirement created to ensure that all students who receive a B.A. from our universities can express themselves with clarity, precision, and even some degree of grace. One does not necessarily have to believe in the well-publicized culture of stupidity or in the dire import of declining SAT scores to be in favor of reemphasizing writing skills in our undergraduate curriculum. It may well be that SAT scores have fallen, as some maintain, not because the traditional college-age population is less literate than they used to be, but because the pool of those taking these tests has widened to include far more students from disadvantaged families, and others who ten or fifteen years ago would simply not have bothered with the testing programs that precede application to college. Or maybe the students of the 80's are just not good test-takers.

It does not really matter why entering freshmen are, as a group, a shade less verbally dexterous than they were a decade ago. Certainly it does not mean that civilization as we know it is collapsing. What matters is that we as educators are according a new curricular primacy to the ability to write effectively. No elaborate justification for this is required.

I would argue that a man or woman who cannot speak and write clearly cannot think and reason cogently either. Psychologists tell us that human beings reason and analyze in words. Image-making and intuition may precede verbalizing, but we are not a preliterate society: we communicate with each other through the use of the spoken and written word. To barbarize and degrade the written language is to barbarize and degrade our thought processes and to damage our ability to reason together and to transcend supersitions, prejudice, and the use of force rather than intelligent and persuasive discourse.

Nor do I believe that there are those exceptional few—typically the top ten percent of a college's freshman class—who should be exempt from a first-year course in expository writing. To do this is to penalize our most linguistically talented students, to say that it is precisely those with a real gift for written expression who should be denied the opportunity to hone their already superior skills to the point of utmost control and mastery. I do not take this view. An expository writing program must provide specially planned Honors sections for those who already write well. Why should they be denied a year to polish and

develop a great gift? And why should the faculty forfeit the chance to work with the most promising and original student writers?

Those who enter college particularly blighted in their writing abilities may need to learn something as simple as how to craft the straightforward declaratory sentence. Those others who are far advanced in their command of English may use their year course to learn the devices of classical rhetoric, or they may devote themselves to mastering the literary polemic, the ironic or pathetic mode, the art of understatement or inference, or how to damn with faint praise. The latter, of course, will be particularly useful to future politicians and college presidents. Beyond simple proficiency, there are many levels of writing sophistication to which students can aspire.

My somewhat over-lengthy apologia for expository writing as a necessary ingredient of any general education curriculum should make it clear that I believe even courses that are nominally devoted to "the basics" should be so constructed as to encompass far more than mere remediation. Remediation of skills is frequently a necessary chore that a university must perform for some of its students. But by itself it does not get us very far, and if this were all that the new concern for general education signified it would indeed be a paltry effort.

Breadth, depth, or interrelatedness

I find myself generally unenthusiastic about the standard survey course that for many years was the principal way in which students satisfied distribution requirements. I refer to courses typically designated as "an introduction" to sociology, psychology, economics, or whatever. It seems to me that many of these courses, particularly in the social sciences where they abound, offer students neither depth nor breadth within their disciplines. One may argue that depth was never their goal, but breadth surely was, and yet the students that I have spoken to invariably seem to remember such courses as unsatisfactory hodge-podges—and dull to boot. One reason for this reaction is that such courses have usually been designed as starting points for concentrators—the first in sequence for the department's future majors. They were thus seen by the faculty as building blocks only and rarely thought of as coherent and vital entities in their own right.

If we are serious about general education for our undergraduates such an approach to the social sciences must change. In the first place, students must be taught to understand their interrelatedness. After all, whether it is economics or anthropology, social science deals with the complexities of human behavior, individually and in groups. Every student should have some conception of the different foci of the several disciplines that are collectively known as the social sciences: They are the branches of a single great tree; all (except, arguably, economics) have essentially developed within the last hundred years; all have shaped our modern understanding of the world. It seems to me that it is not asking too much to expect college graduates to know something about the achievements of Freud *and* Weber, of Keynes *and* Leakey.

At the same time, teachers must convey some understanding of how social scientists gather and analyze their data and how social science differs from "hard" science at the practical as well as the theoretical level.

This may seem like a great deal, and we may have to construct some wholly new course offerings to attain these goals. Various attempts have already been made to teach the social sciences along less sectarian lines. It is possible, for instance, to teach a course on "The Family" utilizing economic, sociological, anthropological, and psychological perspectives. But rarely have such courses been designed to fulfill general education requirements. I see no good reason why this

could not be done. Jealously guarded departmental prerogatives and suspicion of adjacent disciplines and cross-listed offerings have, I believe, been exaggerated. They are the great academic restrictions invoked by the timid to frighten off those with imagination and daring who believe that dynamic teaching and intellectual coherence are more urgent matters than strict preservation of departmental autonomy.

While I seem to be disparaging survey courses, let me turn to another: Western Civilization or History 1-2, the usually obligatory undergraduate monster course that begins somewhere in the Stone Age and ends with World War II. That, at least, is what the college catalog announces. It cannot be denied that the intent of such a course is laudatory, even noble: it aims to give the callow undergraduate some appreciation and respect for the human community as it has evolved in the West over more than two thousand years. It is supposed to introduce students to the distinguished features of major historical epochs: the Middle Ages, the Renaissance, the Victorian Era. Ideally, students will come to understand something about the political order, the moral and aesthetic preoccupations, the scientific ethos, and the economic arrangements of society in each of these periods. They will at least recognize the great personages of history and will associate Louis XIV with Versailles and Louis Napoleon with the Empire. No one who completes the course will henceforth be under the impression that Mussolini was an Italian painter.

Perhaps. But I am not convinced that this approach is the best that we can come up with. Given a rare charismatic lecturer supplemented by a small discussion group it may work. But we cannot always count on having inspired faculty members who are willing to take on such a load. And we should also recognize the limits of what we are imparting to our students with this very traditional pedagogy: the large lecture where students sit passive, and often dazed, while some academic eminence discourses learnedly on the rise of nation-states and the fall of kings is, in fact, a rather dated narrative chronicle of events that depends on conventional periodization, on military defeats and victories, and on great men.

Alternative approaches in the curriculum

This is not exactly an invalid way to teach students about the past. But in its way it is quite restrictive. There are sound reasons why historians consider the Spanish Armada and the Battle of Waterloo turning points. However, we should acknowledge that this kind of history tends to give short shrift to some of the most exciting work being done within the discipline today. A good many historians now view their subject as a social science; their concern is less with the deeds of kings and warriors than with the parameters of life as it was lived by ordinary, and therefore historically anonymous, men and women. There are historians today who are concerned with fertility and mortality rates, with the growth of cities, with changing crime rates, and, more recently, with the availability of energy sources. Granted that all undergraduates should have some exposure to historical subject matter, can we not envision some alternatives to the blockbuster Western Civilization offering?

Lately, I have become intrigued by the possibility of teaching history through literature and film. Such an approach that would familiarize students with the medieval world through *Beowulf* and *The Little Flowers of St. Francis* and through such films as *The Seventh Seal* is admittedly *not* traditional. It is, on the contrary, highly innovative and perhaps a bit risky. But to me it is an approach that makes sense if our goal includes introducing our students to the modes of thought and the imaginative re-creations of other times. It is folly to think we can ever recapture

and arrest the whole of a past culture; perhaps we would do better by being deliberately selective, by giving students access to an experiential dimension. By making explicit the subjective element in how we view the past, we can at least disabuse them of the notion that when they have taken a single course and read a few articles on, say, the French Revolution, they have exhausted all there is to know about that subject.

While I am discussing unorthodox educational experiences, let me digress briefly to take note of a college whose entire curriculum is—given the temper of the times—quixotic. I refer to St. John's College in Annapolis, Maryland, and more recently also in Santa Fe, New Mexico. For over 40 years, St. John's has withstood all reformist pressures and bucked all modernizing trends. Its entire undergraduate curriculum is prescribed. St. John's students—all of them—learn the foundations of Western civilization by reading through 120 great books. The entire freshman year is devoted to the ancient Greeks, and not until the senior year year do students encounter such neophytes as Goethe and Darwin.

Paradoxically, this devotion to classical ideals makes St. John's one of the most radical educational institutions in the country today. In a world where humanists and generalists perceive themselves as beleaguered on all sides by specialists and subspecialists, St. John's continues to thrive. And I think that is because it stands for something: the timeless liberal arts ideal of the wise man who pursues truth for its own sake. The utilitarian value of all this is perhaps nil. It is an inherently compelling vision or it is not. But it may well be the basis for sound thought, the ability to reason, and the foundation of effective communications.

While I am not advocating such a curriculum for everyone, I believe it is immensely valuable that it exists *somewhere*. What I admire most about St. John's is its sense of its own distinct identity. It ought to embolden faculties in other schools not necessarily to replicate the unique St. John's curriculum but rather to seek and create their own distinct identities. Educational pluralism is of vital concern to all. So too are educational standards—we need to know that a B.A. signifies some measure of knowledge and excellence. I do not believe that the two are incompatible.

The role of non-Western cultures

A curricular question to which I see no easy answer concerns the role of non-Western cultures within general education. On the one hand it is undeniable that we are Westerners, the inheritors of a distinct Judeo-Christian cultural tradition that carries within it certain assumptions about man's nature, free will, ethical conduct, individual freedom, and human rights. Though a few years ago young people were flocking to Buddhist monastaries and incanting Indian prayers, I think we must all acknowledge that the Western tradition has shaped us, that it has inculcated us all with certain linear assumptions about progress and has given us all a certain confidence in technology. Clearly, college is the place—and the undergraduate years are the time—when young men and women should be exploring some of the philosophical, scientific, and legal assumptions of their cultural heritage.

But it is difficult to do this without at the same time succumbing to the illusion that our way—our political system, our notions about the purpose of society and the importance of personal happiness—is the best and, indeed, the only way. In a word, it is hard to escape our own cultural provincialism, which frequently becomes outright myopia.

Recently, after observing the jolting events of Iran's Islamic revolution, one of our more astute journalists, Meg Greenfield, remarked that, to use her

words, "we keep trying to fit their behavior in our models" thus betraying our implicit assumption that Islamic people are simply and obstinately "backward Westerners, Indo-Europe's slow learners."

And, although for different reasons, I think the same fault exists when we try to analyze the actions of the Soviet Union, and their response to our actions, in the frame of mind of Westerners. We must understand the world does not think in English, nor act in the American mold. Indeed, general education models must not exclude all mention of philosophical and cultural systems different from our own. We must begin to acknowledge, viscerally and emotionally as well as intellectually, that civilized society did not originate with Greece and Rome; in China, India, and in the Near East other models prevailed.

It seems to me critical that any general education component at least introduce students to cultures based on quite different value systems. There is no single prescribed way to do this. In the first place, there will be many academic institutions, generally the smaller ones, that will not have the faculty necessary to teach meaningful courses in, for example, Oriental philosophy or Japanese industrial development. Yet a way must be found. Since we cannot hope to give undergraduates—except perhaps those who elect to major in foreign studies—anything like a thorough understanding of a non-Western society, perhaps the best we can do is ask the student to select among a fairly wide range of humanities offerings in non-Western culture. Thus an art history major might elect Japanese landscape painting or a religion major choose a course on Buddhism.

I am not, however, wholly satisfied with this solution; for one thing I feel that it neglects social structures in favor of some aspect of culture that is, if not peripheral, then at least less difficult to apprehend. For another, humanities courses tend to present Asian and Near Eastern societies in their pristine age-old forms. The contemporary edge is missing, as is a sense of upheaval and change. Before the great non-Western cultures can be fully and adequately represented in our undergraduate curricula, I am afraid that a national commitment will have to be made to decreasing our Eurocentric view of the world. This charge—that we were running our colleges as though civilization began and ended with European man—was one that was frequently made in the 1960's, and although it led, given the temper of the times, to a lot of curricular nonsense, it also contained considerable truth.

However, giving students curricular access to another culture—and so much the better if this can be supplemented with a year or a semester of study abroad—is not at all the same thing as ethnicizing the curriculum. My opposition to this trend is fundamental. To teach Italian studies to Italian-Americans and Puerto Rican studies to those of Puerto Rican parentage may be immediately gratifying, and spuriously "relevant." But I believe that if we allow such programs to be substituted for the great literary, philosophical, and social science traditions of the West, we are cheating them blind. Yet, there are respectable academic institutions that have installed such programs. I believe that the student who devotes the time that should be spent on general education to this or any other academic byway is simply confirming and perpetuating his own parochialism.

Only if such programs can be constructed to achieve rigor, including a high level of foreign language proficiency, can they be said to be legitimate undergraduate pursuits at all. They should never be substituted for core curriculum experiences of the sort that bring students together in intellectually challenging and enlarging discourse. We have heard a great deal in the last decade about the diversity of our multi-ethnic student bodies, about their highly special and individual needs. Let us not forget that as 18-year-olds living in America of the 1980's, they have many common characteristics as well. One of them, surely, is a shared

need to become acquainted with the great achievements of literature, art, and science in which we all have a stake.

A new place for foreign language study

Just as I am convinced that all undergraduates should have their intellectual horizons broadened by study of another culture, quite distinct from our own, so too I believe we need to reemphasize foreign language skills. During the last decade, foreign language requirements were dropped by many schools and it is not difficult to understand why this happened. It is both expensive and time-consuming to teach students the grammar, syntax, and pronunciation of another language. And college, it seems, it not the optimal time to do it. If the development psychologists are to be believed, foreign languages are best learned before the age of nine. After that it becomes much more difficult and takes much longer. From the university's point of view, teaching foreign languages to beginners is anything but cost efficient. And even if a large commitment in time and money is made, too many students come away from this experience speaking French or German or Italian atrociously. It is worth it?

Personally, I believe it is, but I also think that universities must find a way to promote foreign language study at the secondary and, especially, the primary school level. In the case of a large metropolitan university this might even mean special after-school foreign language classes for—at the very least—neighborhood children. If they can take violin classes or piano lessons twice a week, then why not Spanish or Russian? For the great majority who are not budding Heifitzes or Cliburns, language training would be far more useful.

Another point about languages: I read recently that for every college student currently studying Japanese in the United States there are more than 100 studying French. Certainly, the magnificence of French literary achievements and the overall part that French culture has played in shaping what we call "civilization" will ensure the continued vitality of the French language in our university curricula. But the non-Western languages—Japanese, Arabic, Russian, and Chinese most conspicuously—must in the future receive greater emphasis. These languages represent the peoples who will be increasingly important in the world community in decades to come. We should prepare our students now, through language mastery, which is indispensable to acculturation. Language is the key to the social and psychological identity of another culture. If we do not understand Japanese or Arabic, we have small hope of understanding the Japanese or the Arabic peoples, and any judgments we make about their societies and their institutions will continue to be superficial.

An urgent need for scientific literacy

The difficulties of finding a satisfactory way to build foreign languages into our curricula (redoubled in the case of languages that do not use Roman script) are exceeded only by the unanswered questions about how to teach natural science. The sciences are notoriously hard to teach and, except for the squadrons of aspiring pre-meds, undergraduates tend to be resistant to them. Those who worry about grade-point averages feel that taking physics will jeopardize their chances of making the dean's list. Many others report that their high school encounters with the "hard" sciences were so desultory that they have no inclination to risk a repeat experience. Regrettably, professors, too, sometimes despair of conveying any meaningful scientific knowledge to undergraduates whose academic interests lie in

the humanities, preferring to devote their teaching efforts to declared concentrators in chemistry, physics, or biology or to the pre-med students.

By contrast, our need, as a society and as individuals, to be scientifically better informed becomes daily more urgent. The nuclear accident at Three Mile Island, and the ensuing debate, gave dismaying proof of the public's ignorance, and hence its extreme vulnerability when issues of scientific policy arise, as they increasingly will. Not only were people confused about the severity of the immediate crisis—this was perhaps unavoidable in view of the conflicting assessments of nuclear experts themselves—but abruptly all the myriad and enormously complex issues of radiation, its long- and short-term impact on water supplies, crops, and milk, the siting of nuclear power plants, and above all the trade-offs between potential nuclear problems and national energy needs were thrown into the hopper and became subjects of heated, not to say hysterical, controversy. The spectrum of opinion exhibited in the media stretched all the way from the *China Syndrome* aficionados who predicted that doomsday was at hand, to those who discounted the whole Three Mile Island affair as a "hoax." Lacking even a basic understanding of most of the issues involved, the public was left suspicious, frightened, and antagonistic. Seldom has the need to raise our collective level of scientific literacy been more dramatically illustrated.

With each passing year, it seems that the social and ethical issues that scientific advance forces us to confront become more numerous. Though many people probably do not know it, we are living in the midst of biological revolution. Since the discovery of DNA, our knowledge of the chemical basis of life has been transformed. Once again theories of the origin and evolution of life may soon be turned upside down. Our new knowledge of cellular structures already permits genetic manipulation: we will soon have the power to create relatively complex new organisms. This kind of research has the potential to bring enormous benefits to mankind. It is also filled with hazards. DNA, like nuclear energy, has become something of a public controversy. It is the responsibility of educators to see that our students are knowledgeable about this vastly exciting scientific frontier. The debates it has engendered will not, must not be confined to professional scientists. We must see to it that our students have an informed basis for the judgments they will quite possibly have to make in town meetings and referendums.

In order to understand the topical and politicized scientific controversies now going on in our country, students must also understand something about the way scientists work, the nature of scientific proofs and paradigms, and the evolution of scientific thought. This is not an easy subject either for undergraduates or for older pupils, like myself, whose interests lie primarily in the humanities or the social sciences. Students must understand that both Newton and Einstein were the creators of models of reality that encompassed far more than physics. And finally, they must be prepared to think about the moral issues that underlie the social management of science.

How do we do all this? It should be painfully obvious that simply requiring a student to take the traditional laboratory science wherein he prepares noxious H_2S or breeds fruit flies does not accomplish very much. The science faculties at many universities have specifically recommended *against* this once-mandatory episode in undergraduate education. It can be both painful and totally unproductive —Thurber's disasterous encounter with botany comes to mind.

Scientists, on the other hand, strongly believe in disciplinary training and the experimental method. They argue that in the natural sciences knowledge is organized vertically: you cannot plug in just anywhere, as is frequently possible when teaching history or literature. Asserting that disciplinary comes before interdisciplinary, scientists nevertheless are the first to admit that a way must be

found to familiarize students with the major scientific discoveries and issues of the day. We must consider how best to do this, whether by creating special advanced-level seminars on science and society, by requiring freshmen and sophomores to take some wide-gauge "foundations courses" that emphasize disciplinary epistemology, or simply by stiffening natural science requirements for all.

The problem of how to teach the natural sciences, and most especially their social dimensions, highlight one of my major concerns about undergraduate education. In undergraduate academic life, what most often seems to get squeezed out is the broadly integrative or synthesizing educational experience. Everyone agrees, at least in principle, that such experiences are absolutely vital. But the claims of pre-professional concentrations or "majors," of skills requirements, and of electives (that enshrine "freedom of choice") must also be respected. We must devise new ways to accommodate all these competing demands.

Beyond departments and disciplines to integrative education

The need for synoptic or integrative education becomes even clearer when we consider that an increasing number of issues fundamental to the way we live do not fit readily under existing disciplinary or departmental rubrics. Let us once again consider energy resources, now on everyone's mind. The subject has obvious, albeit neglected, historical importance. The Industrial Revolution, which revolutionized the social order and the nature of work and family life, began with a revolution in energy production: Watt's steam locomotive and the internal combustion engine depended on the harnessing of coal as a new source of power.

For the last 200 years, industrial and economic progress worldwide has been inseparable from energy resources. Thus, it seems to me odd that energy has never been treated as a topic for historians. It gets a great deal of attention from physicists, from environmentalists, and from economists. But it seems blatantly apparent that the subject is so vast, so important, and so multifaceted that it demands a cross-disciplinary perspective. To understand its full ramifications, we must understand not only the scientific aspects of energy production and consumption but their social context as well. So far, it has been left to politicians, journalists, and science-fiction writers to educate the public on the vital questions of energy costs, allocation, and the social implications of an energy-scarce world. I do not think we can afford to leave it in their hands alone.

There are other subjects as well that do not get taught because they do not fit our standard curricular divisions. Law, for instance, increasingly permeates every aspect of our lives. Novelists need to worry about contracts and copyrights, doctors about malpractice suits, universities about equal opportunity laws, and live-in lovers about common property and the possible revival by the judiciary of updated breach-of-promise suits. Recently civil rights activists have mounted a drive to extend constitutional guarantees to groups of persons who traditionally have been excluded from various kinds of constitutional protection: incarcerated criminals, members of the armed forces, and children.

Yet, there is little if any reflection of this increased societal preoccupation with the law in our undergraduate curricula. At most universities, except for the one obligatory course on constitutional law, which generally concentrates heavily on eighteenth- and nineteenth-century Supreme Court decisions, the teaching of law is confined exclusively to law schools. To paraphrase Clemenceau, law is too serious a matter to be left to the lawyers. Philosophers, sociologists, and historians need to be convened to explicate its deeper meanings to our students. Whether they eventually become mathematicians or musicians, they will be better equipped to understand the society they live in.

If we stop to think about it, the range of subjects that seem to require cross-fertilization from two or more disciplines is potentially very wide. One of the foundations courses at Middlebury is entitled Human Conflict—a subject that takes in individual frustration and aggression, racial and religious strife, and, as its most virulent expression, war between nations. At Middlebury it is being taught from the combined perspectives of history, political science, social psychology, and sociology—a distinctive and imaginative undertaking.

Boston University, another of the schools that has recently made fundamental revisions in its curriculum, offers an interdisciplinary course devoted to the study of New England through history, literature, and the visual arts, focusing on the changing conception of the New England identity.

At New York University we are on the verge of carrying this interdisciplinary, integrated approach to learning several steps beyond the discrete single semester course. It is an exciting project, and while we have some trepidations, we are determined to take the plunge. The idea is a simple one: a relatively small group of undergraduates, approximately 200, will commit themselves to three full semesters of organized study built around a seminal topic, one that includes dimensions that properly belong to the humanities, the social sciences, the arts, and the natural sciences.

Urban culture is one such topic. Clearly, it lends itself to sociological and ethnological perspectives. The city, ancient and modern, ideal and actual, has generated an enormous amount of literature—consider Augustine's *The City of God*, Lewis Mumford's *The City in History*, and Hugo's *Les Miserables* to name but a few books. Architects, urban planners, and filmmakers have all constructed visions of the city. Biologists as well psychologists have studied urban populations, crowds, mobility patterns, and the social composition of neighborhoods. It is a vast, engaging, and supremely "relevant" topic even if one's home base does not happen to be New York City. The educational experience we are developing is one that aims to involve the students fully. It will be designed to encompass a variety of learning and teaching modes: traditional lectures, team teaching, collaborative research projects by small groups of students, etc. Guest speakers, who embody various kinds of urban expertise will be invited; films will be shown. We believe that this kind of structure will ensure that students acquire far more than a superficial pastiche of urban images and lore.

Other topics invite such cross-disciplinary studies and dynamic pedagogies. The faculty at New York University is developing several such integrated sequences. We do not expect our model to solve all our curricular problems; it may not even be appropriate for all NYU students. A significant portion of the faculty, I believe, finds it a bit educationally risque. But without such bold experiments, higher education in our country is in danger of becoming static or even regressive. And that would be nothing less than a social calamity that would ensure a dwindling of talent and human resources at a time in history when we need all the intellectual courage and daring we can muster.

Finally, what we demand of higher education, should also be demanded in the employment sectors of our economy. Certainly the chief executive officers would hardly endorse these requirements. Why, I ask, are the recruiters who visit our campuses so single-minded in their pursuit of the vocationally trained.

We as educators have a great deal to do in our colleges and universities. We also have a great deal to do in the corporate sector. We must not teach to the transitory interest of the recruiters or students—but we must also do our best to explain why.

That may be our most difficult challenge. But if we are to succeed beyond the era of retrenchment, we must reach out as well as in. And we must succeed.

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